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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,966	01/18/2002	Mu-III Lim	CP-1230 (G-271ML)	3345
<div>27752      7590      11/26/2007 THE PROCTER &amp; GAMBLE COMPANY INTELLECTUAL PROPERTY DIVISION - WEST BLDG. WINTON HILL BUSINESS CENTER - BOX 412 6250 CENTER HILL AVENUE CINCINNATI, OH 45224</div>			<div>EXAMINER CHANNAVAJALA, LAKSHMI SARADA</div> <div>ART UNIT      PAPER NUMBER 1615</div> <div>MAIL DATE      DELIVERY MODE 11/26/2007      PAPER</div>	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/052,966

Applicant(s)

LIM ET AL.

Examiner

Lakshmi S. Channavajjala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7, 9 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-7 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/9/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**ETAILED ACTION**

Receipt of RCE dated 9-10-07 is acknowledged.

Claims 1-3, 7-9 and 25 are pending in the instant application.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-10-07 has been entered.

***Response to Arguments***

Applicant's arguments with respect to claims 1-3, 7-9 and 25 have been considered but are moot in view of the new ground(s) of rejection.

In response to the amendment that resulted in the cancellation of limitations where R1 and R2 together form a C3 to C6 together with the nitrogen atoms to which they are attached, the previous rejection has been withdrawn and the following new rejection applied:

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4429344 (only abstract) to Rose et al.

Rose et al teach aminomethylated dihydroxybenzene compounds and their use in oxidative hair dyeing. The abstract specifically mentions the compound 4-[[bis(2-hydroxyethyl) aminomethyl]-1, 3-benzenediol.

While the compound of Rose is also a 1,3-benzene diol that is similar to the claimed compound, instant compound requires the aminomethyl substitution at the 2<sup>nd</sup> position as opposed to the 4-position of the compounds of Rose. However, the instant claimed compounds are obvious over the compound of Rose because both the compounds are structurally similar and hence expected to possess similar properties. In re Dillon, 919 F.2d at 692-93, 16 USPQ2d at 1900-02; In re Wilder, 563 F.2d 457, 460, 195 USPQ 426, 429 (CCPA 1977) (adjacent homologs and structural isomers).

Claims 1-3 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4200534 (only abstract) to Konrad et al.

Konrad teaches 4-[[[(4-hydroxyphenyl) amino] methyl]-1, 3-benzenediol, as intermediate for developers for oxidative hair dyes to treat hair.

While the compound of Konrad is a 1,3-benzene diol compound that are similar to the claimed compounds, instant claimed compound requires the aminomethyl substitution at the 2<sup>nd</sup> position as opposed to the 4-position of the compounds of Rose and Konrad. However, the instant claimed compounds are obvious over the compound of Rose because both the compounds are structurally similar and hence expected to possess similar properties. In re Dillon, 919 F.2d at 692-93, 16 USPQ2d at 1900-02; In re Wilder, 563 F.2d 457, 460, 195 USPQ 426, 429 (CCPA 1977) (adjacent homologs and structural isomers). Further, the compounds of Konrad contain hydroxyphenyl as opposed to the phenyl group of claims 2 and 3. However, if the claimed invention and the structurally similar prior art species share any useful property, in this case, intermediates for oxidative hair dyeing, one of an ordinary skill in the art at the time of the instant invention would have been motivated to make the claimed species of compounds with an expectation to obtain compounds with similar properties based on structural similarities. Dillon, 919 F.2d at 693, 696, 16 USPQ2d at 1901, 1904.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4200534 (only abstract) to Konrad et al or DE 4429344 (only abstract) to Rose et al as applied to claims 1-3 and 25 above, and further in view of US 3951970 to Razdan et al (Razdan).

Instant claims recite a method of preparing the compound of claim 1 by reacting 2,6-dimethoxybenzaldehyde with an amine of formula 3 and a reductive amination

reducing agent to produce compound 3, followed by deprotecting the compound with a deprotection agent to obtain compound of formula 1.

Rose et al and Konrad et al, described above, fail to teach the claimed process of preparing the compound and instead teach processes such as catalytic hydrogenation (Konrad) or reaction of 2-methylresorcinol with 3-hydroxyethyl resorcinol (Rose).

Razdan teaches resorcinol amine derivatives of formula I (col. 1, L 9-21), which is similar to the compound of instant formula I. However, the resorcinol of Razdan possesses two methoxy groups instead of the hydroxy groups of instant compound and also contains an additional alkyl group on the benzene ring because, which is absent in the instant compound.

Razdan teach that the resorcinol compounds containing an amine (as a Z group) are prepared by reacting the compound of formula 2 (methoxy benzene) with formaldehyde and the secondary amine, in accordance with Mannich reaction (col. 2, L 28-67) in an inert solvent such as ethanol, with cooling and agitation and that the desired product is recovered by recovering the solvent and the unreacted solvent material (col. 3, L 1-13). While the compounds prepared by Razdan do not read on the claimed benzene diol compounds and instant claimed process begins with a methoxy benzaldehyde instead of the methoxy benzene (like in Razdan), Razdan teaches mixing the methoxybenzene, aldehyde and amine in one step, which absent evidence to the contrary results in the same final product, because formula 3 of instant claim 7 is similar to the reaction product (resorcinol derivative) of Razdan, except for the alkyl groups on the benzene ring. Accordingly, it would have been within the scope of a

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skilled artisan at the time of the instant invention to employ the reactants of Razdan all in one step or first prepare an aldehyde and then react with an amine, in order to prepare the resorcinol derivatives of Rose or Konrad because the claimed method of preparing the resorcinol compounds is novel and is a well recognized reaction as evidenced by the teachings of Razdan and absent evidence to the unexpected advantage of the claimed process, a skilled artisan would have employed the process of preparation of Rose or Konrad or Razdan and still obtain the desired resorcinol derivatives.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S. Channavajjala whose telephone number is 571-272-0591. The examiner can normally be reached on 7.00 AM -4.00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AU 1615  
November 20, 2007

A handwritten signature in black ink, appearing to read 'Lakshmi S. ChannavaJJala', with a horizontal line drawn underneath it.

LAKSHMI S. CHANNAVAJJALA  
PRIMARY EXAMINER